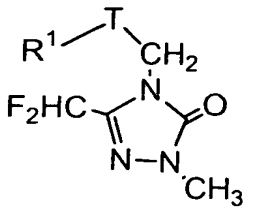
CLAIMS

1. A triazolone compound of the formula [I]:



[I]

wherein,

R^1 represents A^1-L^1-, A^1-ON=CA^2-, A^1-ON=C(Me)CH_2ON=CA^2-, A^1-C(A^2)=N-OCH_2-, A^1S-C(A^2)=N-, A^1-C(=S)NH-, A^1S-C(=S)NH-, A^1S-C(SA^2)=N-, A^1-ON=C(CN)-, A^1-ON=C(Me)CH_2ON=C(CN)-, A^1-C(CN)=N-OCH_2-, halogen atom, nitro or cyano;

wherein, L^1 represents single bond, oxygen atom, sulfur atom, carbonyl, -OCH_2-, -SCH_2-, -C(=O)O-, -OC(=O)-, -C(=O)OCH_2-, -NH- or C_1-C_6 alkylimino;

A^1 and A^2, which are the same or different, represent hydrogen atom, C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_3-C_{10} cycloalkyl, (C_3-C_{10} cycloalkyl) alkyl, C_5-C_{10} cycloalkenyl, (C_5-C_{10} cycloalkenyl) alkyl, phenyl, naphthyl, phenyl C_1-C_{10} alkyl, naphtyl C_1-C_{10} alkyl, 5- or 6-membered heterocyclic group optionally condensed with a benzene ring, or methyl substituted by a 5- or 6-membered heterocyclic group optionally condensed with a benzene ring;

the alkyl, the alkenyl, the alkynyl, the cycloalkyl, the cycloalkylalkyl, the cycloalkenyl and the cycloalkenylalkyl, represented by A^1 and A^2, may optionally be each substituted by one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_{10} alkoxy, C_1-C_{10} haloalkoxy, C_1-C_{10} alkylthio, C_1-C_{10}

haloalkylthio, (C_1-C_9 alkyl) carbonyl, (C_1-C_9 alkoxy) carbonyl, (C_1-C_9 alkyl) carbonylamino, phenyl, phenoxy, benzyloxy and tri(C_1-C_{10} alkyl) silyl;

the phenyl, the naphthyl, the benzene ring in the phenylalkyl, the naphthalene ring in the phenylnaphthyl, the heterocyclic group, and the heterocyclic ring in the methyl substituted by a heterocylic group, represented by A^1 and A^2, may optionally be each substituted by one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_{10} alkyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, C_1-C_{10} alkoxy, C_1-C_{10} haloalkoxy, C_1-C_{10} alkylthio, C_1-C_{10} haloalkylthio, (C_1-C_9 alkyl) carbonyl, (C_1-C_9 alkoxy) carbonyl, (C_1-C_9 alkyl) carbonylamino, phenyl, phenoxy, benzyloxy, tri(C_1-C_{10} alkyl) silyl, methylenedioxy and difluoromethylenedioxy;

with the proviso, when L^1 is single bond, A^1 is not a hydrogen atom;

T represents optionally substituted *m*-phenylene, optionally substituted *m*-azaphenylene or optionally substituted *m*-diazaphenylene bonded to R^1 and to CH_2 each via a carbon atom;

wherein the substituent(s) are one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5 alkoxy) carbonyl.

2. The triazolone compound according to claim 1, wherein T is optionally substituted *m*-phenylene;

wherein the substituent(s) are one or more substituents selected from the group of halogen atom(s), cyano, nitro,

C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5 alkoxy)carbonyl.

3. The triazolone compound according to claim 1, wherein T is optionally substituted *m*-azaphenylene or optionally substituted *m*-diazaphenylene bonded to R^1 and to CH_2 each via a carbon atom;

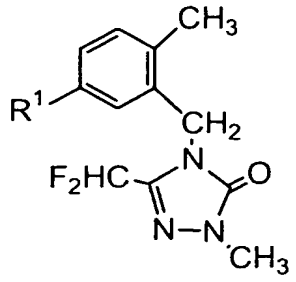
wherein the substituent(s) are one or more substituents selected from the group of halogen atom(s), cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5 alkoxy)carbonyl.

4. The triazolone compound according to claim 1, wherein T is optionally substituted *m*-phenylene;

wherein the substituent(s) are halogen atom(s) or methyl; R^1 is optionally substituted phenyl;

wherein the substituent(s) are one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_{10} alkyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, C_1-C_{10} alkoxy, C_1-C_{10} haloalkoxy, C_1-C_{10} alkylthio, C_1-C_{10} haloalkylthio, (C_1-C_9 alkyl) carbonyl, (C_1-C_9 alkoxy) carbonyl, (C_1-C_9 alkyl) carbonylamino, phenyl, phenoxy, benzyloxy, tri(C_1-C_{10} alkyl) silyl, methylenedioxy and difluoromethylenedioxy.

5. The triazolone compound according to claim 1, which is represented by the formula [LX]:



[LX]

wherein;

R^1 is optionally substituted phenyl;

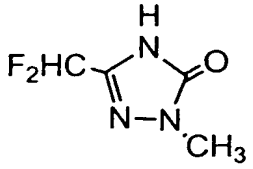
wherein the substituent(s) are one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_{10} alkyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, C_1-C_{10} alkoxy, C_1-C_{10} haloalkoxy, C_1-C_{10} alkylthio, C_1-C_{10} haloalkylthio, (C_1-C_9 alkyl) carbonyl, (C_1-C_9 alkoxy) carbonyl, (C_1-C_9 alkyl) carbonylamino, phenyl, phenoxy, benzyloxy, tri(C_1-C_{10} alkyl) silyl, methylenedioxy and difluoromethylenedioxy.

6. 5-Difluoromethyl-2-methyl-4-(2-methyl-5--phenylbenzyl)-2,4-dihydro-3H-1,2,4-triazol-3-one; which is the triazolone compound according to claim 4, wherein R^1 is phenyl.

7. A fungicidal composition containing the triazolone compound according to claim 1 as an active ingredient, and an inactive carrier.

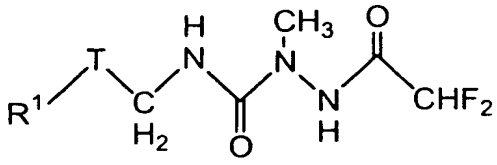
8. The fungicidal composition according to claim 6, which is containing 5-difluoromethyl-2-methyl-4-(2-methyl-5--phenylbenzyl)-2,4-dihydro-3H-1,2,4-triazol-3-one as an active ingredient, and an inactive carrier.

9. 5-Difluoromethyl-2-methyl-2,4-dihydro-3H-1,2,4-triazol-3-one of the formula [L]:



[L]

10. A difluoroacetyl semicarbazide compound of the formula [XXVI]:



[XXVI]

wherein,

R^1 represents A^1-L^1-, A^1-ON=CA^2-, A^1-ON=C(Me)CH_2ON=CA^2-, A^1-C(A^2)=N-OCH_2-, A^1S-C(A^2)=N-, A^1-C(=S)NH-, A^1S-C(=S)NH-, A^1S-C(SA^2)=N-, A^1-ON=C(CN)-, A^1-ON=C(Me)CH_2ON=C(CN)-, A^1-C(CN)=N-OCH_2-, halogen atom, nitro or cyano;

wherein L^1 represents single bond, oxygen atom, sulfur atom, carbonyl, $-OCH_2-$, $-SCH_2-$, -C(=O)O-, -OC(=O)-, $-C(=O)OCH_2-$, -NH- or C_1-C_6 alkylimino;

A^1 and A^2, which are the same or different, represent hydrogen atom, C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_3-C_{10} cycloalkyl, (C_3-C_{10} cycloalkyl) alkyl, C_5-C_{10} cycloalkenyl, (C_5-C_{10} cycloalkenyl) alkyl, phenyl, naphthyl, phenyl C_1-C_{10} alkyl, naphtyl C_1-C_{10} alkyl, 5- or 6-membered heterocyclic group optionally condensed with a benzene ring, or methyl substituted by a 5- or 6-membered heterocyclic group optionally condensed with a benzene ring;

the alkyl, the alkenyl, the alkynyl, the cycloalkyl, the cycloalkylalkyl, the cycloalkenyl and the

cycloalkenylalkyl represented by A^1 and A^2, may optionally be each substituted by one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_{10} alkoxy, C_1-C_{10} haloalkoxy, C_1-C_{10} alkylthio, C_1-C_{10} haloalkylthio, (C_1-C_9 alkyl) carbonyl, (C_1-C_9 alkoxy) carbonyl, (C_1-C_9 alkyl) carbonylamino, phenyl, phenoxy, benzyloxy and tri(C_1-C_{10} alkyl) silyl;

the phenyl, the naphthyl, the benzene ring in the phenylalkyl, the naphthalene ring in the phenylnaphthyl, the heterocyclic group, and the heterocyclic ring in the methyl substituted by a heterocylic group, represented by A^1 and A^2, may optionally be each substituted by one or more substituents selected from the group consisting of halogen atoms, cyano, nitro, C_1-C_{10} alkyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, C_1-C_{10} alkoxy, C_1-C_{10} haloalkoxy, C_1-C_{10} alkylthio, C_1-C_{10} haloalkylthio, (C_1-C_9 alkyl) carbonyl, (C_1-C_9 alkoxy) carbonyl, (C_1-C_9 alkyl) carbonylamino, phenyl, phenoxy, benzyloxy, tri(C_1-C_{10} alkyl) silyl, methylenedioxy and difluoromethylenedioxy; with the proviso, when L^1 is single bond, A^1 is not a hydrogen atom;

T represents optionally substituted *m*-phenylene, optionally substituted *m*-azaphenylene or optionally substituted *m*-diazaphenylene bonded to R^1 and to CH_2 each via a carbon atom;

wherein the substituent(s) are one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5 alkoxy) carbonyl.

11. The difluoroacetyl semicarbazide compound according to claim 10, wherein T is optionally substituted *m*-phenylene;

wherein the substituent(s) are one or more substituents selected from the group of halogen atoms, cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5 alkoxy)carbonyl.

12. The difluoroacetyl semicarbazide compound according to claim 10, wherein T is optionally substituted *m*-azaphenylene or optionally substituted *m*-diazaphenylene bonded to R^1 and to CH_2 each via a carbon atom;

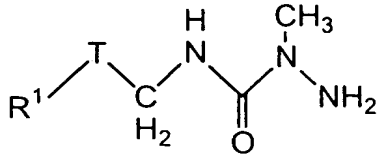
wherein the substituent(s) are one or more substituents selected from the group of halogen atom(s), cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5 alkoxy)carbonyl.

13. The difluoroacetyl semicarbazide compound according to claim 10, wherein T is optionally substituted *m*-phenylene;

wherein the substituent(s) are halogen atom(s) or methyl.

14. 1-Difluoroacetyl-2-methyl-4-(2-methyl-5--phenylbenzyl)semicarbazide; which is the difluoroacetyl semicarbazide compound according to claim 10.

15. A semicarbazide compound of the formula [VII]:



[VII]

wherein;

R^1 represents A^1-L^1-, $A^1-ON=CA^2-$, $A^1-ON=C(Me)CH_2ON=CA^2-$, $A^1-C(A^2)=N-OCH_2-$, $A^1S-C(A^2)=N-$, $A^1-C(=S)NH-$, $A^1S-C(=S)NH-$, $A^1S-C(SA^2)=N-$, $A^1-ON=C(CN)-$, $A^1-ON=C(Me)CH_2ON=C(CN)-$, $A^1-C(CN)=N-OCH_2-$, halogen atom, nitro or cyano;

wherein, L^1 represents single bond, oxygen atom, sulfur atom, carbonyl, $-OCH_2-$, $-SCH_2-$, $-C(=O)O-$, $-OC(=O)-$, $-C(=O)OCH_2-$, $-NH-$ or C_1-C_6 alkylimino;

A^1 and A^2, which are the same or different, represent hydrogen atom, C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_3-C_{10} cycloalkyl, (C_3-C_{10} cycloalkyl) alkyl, C_5-C_{10} cycloalkenyl, (C_5-C_{10} cycloalkenyl) alkyl, phenyl, naphthyl, phenyl C_1-C_{10} alkyl, naphtyl C_1-C_{10} alkyl, 5- or 6-membered heterocyclic group optionally condensed with a benzene ring, or methyl substituted by a 5- or 6-membered heterocyclic group optionally condensed with a benzene ring;

the alkyl, the alkenyl, the alkynyl, the cycloalkyl, the cycloalkylalkyl, the cycloalkenyl and the cycloalkenylalkyl, represented by A^1 and A^2, may optionally be each substituted by one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_{10} alkoxy, C_1-C_{10} haloalkoxy, C_1-C_{10} alkylthio, C_1-C_{10} haloalkylthio, (C_1-C_9 alkyl) carbonyl, (C_1-C_9 alkoxy) carbonyl, (C_1-C_9 alkyl) carbonylamino, phenyl, phenoxy, benzyloxy and tri(C_1-C_{10} alkyl) silyl;

the phenyl, the naphthyl, the benzene ring in the phenylalkyl, the naphthalene ring in the phenylnaphthyl, the heterocyclic group, and the heterocyclic ring in the methyl substituted by a heterocylic group, represented

by A^1 and A^2, may optionally be each substituted by one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_{10} alkyl, C_1-C_{10} haloalkyl, C_3-C_{10} cycloalkyl, C_1-C_{10} alkoxy, C_1-C_{10} haloalkoxy, C_1-C_{10} alkylthio, C_1-C_{10} haloalkylthio, (C_1-C_9 alkyl) carbonyl, (C_1-C_9 alkoxy) carbonyl, (C_1-C_9 alkyl) carbonylamino, phenyl, phenoxy, benzyloxy, tri(C_1-C_{10} alkyl) silyl, methylenedioxy and difluoromethylenedioxy; with the proviso, when L^1 is single bond, A^1 is not a hydrogen atom;

T represents optionally substituted *m*-phenylene, optionally substituted *m*-azaphenylene or optionally substituted *m*-diazaphenylene bonded to R^1 and to CH_2 each via a carbon atom;

wherein the substituent(s) are one or more substituents selected from the group consisting of halogen atom(s), cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5 alkoxy) carbonyl.

16. The semicarbazide compound according to claim 15, wherein T is optionally substituted *m*-phenylene;

wherein the substituent(s) are one or more substituents selected from the group of halogen atom(s), cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5 alkoxy) carbonyl.

17. The semicarbazide compound according to claim 15, wherein T is optionally substituted *m*-azaphenylene or optionally substituted *m*-diazaphenylene bonded to R^1 and to CH_2 each via

a carbon atom;

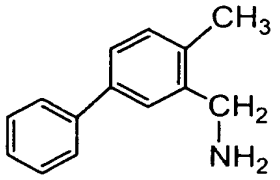
wherein the substituent(s) are one or more substituents selected from the group of halogen atom(s), cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio and (C_1-C_5-alkoxy)carbonyl.

18. The semicarbazide compound according to claim 15, wherein T is optionally substituted *m*-phenylene;

wherein the substituent(s) are halogen atom(s) or methyl.

19. 2-Methyl-4-(2-methyl-5-phenylbenzyl)semicarbazide; which is the semicarbazide compound according to claim 15.

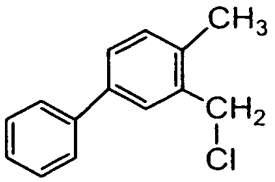
20. 2-Methyl-5-phenylbenzylamine of the formula [XVI-1]:



[XVI-1]

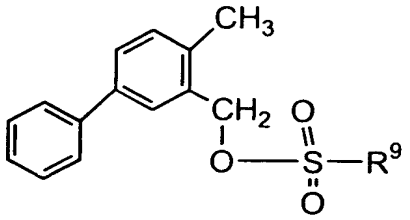
, its inorganic acid salt or its sulfonic acid salt.

21. 2-Methyl-5-phenylbenzyl chloride of the formula [XIII-1]:



[XIII-1]

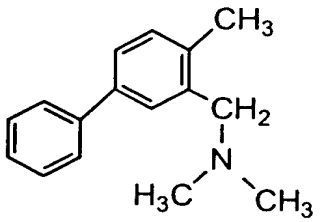
22. A sulfonate ester compound of the formula [XIII-2]:



[XIII-2]

wherein R^9 represents methyl or p-tolyl.

23. N,N-Dimethyl-(2-methyl-5-phenylbenzyl)amine of the formula [LI]:



[LI]

, its inorganic acid salt or its sulfonic acid salt.